

Restricted Area

Vehicle Operating Regulations

Movement Area Handbook



PORTLAND INTERNATIONAL AIRPORT
AIRPORT OPERATIONS

INTRODUCTION

As an authorized airfield vehicle operator at Portland International Airport (PDX), you are tasked with knowing and complying with the rules that govern vehicle operations within what is known as the airport's Restricted Area. Operating rules within this key area of the airport are mandated and regulated by the Federal Aviation Administration (FAA). The basis for this Restricted Area Driving Handbook is the "Portland International Airport Rules". The "PDX Rules" document has been provided to the management of all airfield tenants and is also available from PDX Airport Operations staff or from the Port of Portland's internet web page at http://www.portofportland.com/Rules_Ord_Pol.aspx and should be referred to for clarifications involving vehicle operation in the airport's Restricted Area.

The primary objective of this handbook is to provide vehicle operators the appropriate information to maintain the safe operation of motor vehicles in the airport Restricted Area. Persons driving into or within the Restricted Area of PDX without proper training or approvals create an unacceptable risk of accidental injury or damage which may result in contact with an aircraft. The Port considers such incidents to be extremely serious and largely preventable. This handbook should assist vehicle operators to become familiar with both pertinent Restricted Area driving regulations and best practices associated with vehicle operations within the Restricted Area. For unfamiliar terms, refer to the "Definitions" section.

No person shall drive in the Restricted Area unless (a) such person has a valid Vehicle Operator Permit (as defined in the "Vehicle Operator Requirements" section of this handbook) issued by the Port to such person or (b) such person is escorted by a person having a Vehicle Operator Permit issued to such escort. An Airport Security Badge (as defined in the "General Guidelines" section of this handbook) by itself is NOT authorization to operate a vehicle in the Restricted Area.

April 7, 2014

RESTRICTED AREA DRIVING RULES

General Guidelines

No person shall drive in the Restricted Area unless (a) such person has successfully completed required training and is in possession of a valid, appropriately annotated PDX Security Badge (with a “D or M” icon); or (b) such person is escorted by an individual who meets the foregoing badging requirements. The Restricted Area includes both “Non-Movement Areas” and “Movement Areas”. Anyone authorized to operate a motorized vehicle in the Restricted Area may do so on the Non-movement areas without being in positive radio contact with the FAA Air Traffic Control Tower (ATCT). Though aircraft flight crew coordination with the ATCT is not required in the Non-Movement Area, aircraft still routinely operate in these areas and vehicle operators must exercise caution. Requirements for operations in Movement Areas are described in the “Portland International Airport Rules” and in this manual. Employers who obtain authorization to operate vehicles within the Restricted Area are responsible for their employees and vendor’s compliance with Restricted Area driving regulations.

Vehicle Operator Requirements

1. An applicant must be approved by the Authorized Designee of his/her employer and must have a business need for the authorization to drive in the Restricted Area. The applicant and the Authorized Designee must complete the applicable portions of the PDX Security & Driver Badge Application prior to taking the Port-required computer based driver training.
2. The applicant must possess a valid driver’s license. The Restricted Area driving authorization is invalid during any period that a driver’s license is not valid.
3. The applicant must possess a valid PDX Security Badge. The Restricted Area driving authorization is revoked or suspended for any period the PDX Security Badge of such vehicle operator is revoked or suspended.
4. In addition to requirements listed above, no vehicle shall be operated in the Restricted Area unless the vehicle operator is licensed to operate the specific class of vehicle by an appropriate state-licensing agency or, if allowed by Oregon law, by the driver’s employer through a company training/certification program.
5. The applicant must successfully complete all required Port driver training courses and, if applicable, the Port’s hands-on Movement Area training course.
6. Only those persons with an appropriately annotated PDX Security Badge (with a “D or M” icon) may escort vehicles within the Restricted Area. Unless otherwise coordinated, the unbadged vehicle operator and vehicle must be escorted by an appropriately badged driver (per “General Guidelines” above) operating an appropriately marked vehicle (per “Vehicle Regulations” below). Escorts must continuously accompany, monitor, and control the movement of vehicles operated by unbadged drivers while those vehicles are within the

Restricted Area. Responsibility for a vehicle escort may be transferred to another appropriately badged vehicle operator. Citations for infractions or violations incurred by an unbadged vehicle operator will be issued to that vehicle's escort. Any deviation from these escort requirements must be approved by the Airside Operations Manager. Failure to comply with these requirements may be classified as a Class II Security Violation or a Class II Driving Violation or both.

Vehicle Regulations

1. The vehicle must be properly licensed in the state of Oregon.
2. The vehicle shall display identifying signage affixed to the exterior of both sides. The identifying signage shall be distinctly recognizable and visible from a distance of at least fifty (50) feet. All identifying signage shall provide sharp contrast to the vehicle color and preferably be reflective. Such identifying signage shall be professionally manufactured, at least twelve (12) inches in diameter or square, with lettering at least three (3) inches in height. Failure to comply with vehicle marking requirements is a Security Violation and may result in sanctions against both the vehicle operator and owner.
3. Vehicles exempt from vehicle identification requirement include (a) unmarked Police Department vehicles, as authorized by the Chief of Police or his/her designee, (b) vehicles under authorized escort, (c) vehicles within the boundaries of the General Aviation Ramp, and (d) any other vehicle authorized in writing, by the Airport Security Coordinator (ASC). Proof of such authorization must be present in the vehicle.
4. The vehicle must be in sound mechanical and structural condition with unobstructed forward and side vision from the driver's seat. In addition, the vehicle must have the appropriately rated and inspected fire extinguishers, if a service vehicle or fuel truck. The Port may determine, in its sole discretion, whether a vehicle is safe or unsafe to operate in the Restricted Area. Failure to comply with this requirement shall be a Class I Driving Violation and, at the discretion of the Airport Operations Manager, the vehicle may be prohibited from operating on the airfield.
5. The vehicle must be equipped with either: (a) running lights appropriate to the vehicle, which must be used between sunset and sunrise, or when visibility is less than one thousand (1,000) feet, or (b) reflective devices displayed on the front, rear and sides of a contrasting color to the equipment. Failure to comply with this requirement shall be a Class I Driving Violation and, at the discretion of the Airport Operations Manager, the vehicle may be prohibited from operating on the airfield.

Driving Regulations

Penalties associated with these regulations are categorized based on the severity of non-compliance (see “Definitions” section for Class I/II/III explanation). Specific penalties are outlined in the “Enforcement Matrix” section of this handbook.

1. No personal vehicles are allowed in the Restricted Area, unless authorized by the Port. Failure to comply with this requirement shall be a Class I Driving Violation.
2. Drivers shall use the designated service roads or vehicle lanes except when servicing an aircraft. Failure to comply with this requirement shall be a Class I Driving Violation.
3. An escort vehicle must meet Security Badging Office requirements for drivers and may only; (a) escort up to three (3) vehicles; and (b) escort two (2) tractor trailer rigs, or two (2) buses. Failure to comply with this requirement shall be a Class I Driving Violation.
4. Drivers are responsible for the containment of any loads or materials being carried and /or towed in or by their vehicles. Failure to comply with this requirement shall be a Class I Driving Violation.
5. Except for those vehicles servicing the aircraft, no driver shall park or pass between an aircraft and the Terminal when the aircraft is parked at a gate position. Failure to comply with this requirement shall be a Class I Driving Violation.
6. Tractor and/or container carriers shall tow no more carts, pods, igloos, or containers than are safe, under control, and tracking properly. The maximum tractor train length is: (a) four (4) baggage/cargo carts inside the Terminal baggage tunnel; (b) five (5) baggage/cargo carts outside the Terminal baggage tunnel; (c) two (2) LD4/LD7 or larger transporters/dollies; (d) four (4) LD3 or smaller transporters/dollies; (e) two (2) or any mix of LD3 or smaller transporters/dollies with LD4/LD7 or larger transporters/dollies, and (f) four (4) of any mix of baggage/cargo carts and LD3 or smaller transporters/dollies. Any deviations from these requirements must be approved by the Airside Operations Manager. Failure to comply with this requirement shall be a Class I Driving Violation.
7. No driver shall: (a) operate any vehicle that is overloaded or carrying more passengers than the vehicle was designed to carry; (b) ride on the running board or stand up in the body of a moving vehicle, or (c) ride with arms or legs protruding from the vehicle, except when the vehicle was specifically designed for such use. The driver is responsible for the activities of all passengers in their vehicle. Failure to comply with this requirement shall be a Class I Driving Violation.
8. A vehicle guide person is required whenever the visibility of the driver is obstructed. Failure to comply with this requirement shall be a Class I Driving Violation.

9. Vehicles may be operated under passenger loading bridges only on designated and marked vehicle roadways. Airside Operations staff must approve the parking of vehicles or equipment under any passenger loading bridge. Failure to comply with this requirement shall be a Class I Driving Violation. Additionally, violators may be subject to fines as outlined in the “Enforcement Matrix” in the “Sanctions” section of this book.
10. Drivers shall not leave the engine running on an unattended vehicle, except when required for aircraft servicing. Failure to comply with this requirement shall be a Class I Driving Violation.
11. All drivers driving in the Restricted Area shall assist in the maintenance of clear and uncluttered apron areas to avoid aircraft damage due to Foreign Object Debris (FOD). If any Foreign Object Debris is sighted in the Movement Area or outside of designated vehicle roads, drivers should notify the Airside Operations Supervisor at (503) 460-4134. Failure to comply with this requirement shall be a Class I Driving Violation.
12. When not servicing aircraft or undertaking their intended functions, vehicles and ground service equipment (GSE) shall be parked only in approved, marked parking stalls or within the Tenant’s own area. No driver shall do any of the following: (a) park a vehicle in an aircraft parking area, a marked safety area, or any grass area; (b) park a vehicle in a manner that obstructs or interferes with any Movement Area or apron area; (c) park, or leave unattended, vehicles or other equipment that interferes with the use of a facility by others or prevents movement or passage of aircraft, emergency vehicles, or other vehicles and equipment; (d) park a vehicle or equipment within three (3) feet of a fire hydrant, or in a manner that prohibits a vehicle accessing the fire hydrant; (e) park a fuel tanker, except when servicing an aircraft, within fifty (50) feet of any aircraft or building, other than maintenance facilities and garages for fuel servicing tank vehicles. Failure to comply with this requirement may result in the issuance of an airfield parking citation to the owner of the vehicle or equipment and a monetary fine of up to \$250. Vehicles or equipment parked as described in (a) through (e) above may be moved to an alternate location at the owner’s expense. When working a scheduled flight on a Port-managed parking position (terminal gate or remote parking ramp), GSE required to ground-handle the aircraft may be staged at the ramp associated with the parking position thirty (30) minutes prior to the arrival of the aircraft. GSE must be removed from the ramp area associated with the parking position thirty (30) minutes after the aircraft is moved from the parking position. Accommodations for extraordinary circumstances, including unusual aircraft type or the handling of consecutive flights on the same Port-managed gate, must be communicated and coordinated with the Airport Operations Supervisor for Airside.
13. The use of entertainment headsets, text messaging devices, and other entertainment devices is prohibited while driving in the Restricted Area. Failure to comply with this requirement shall be a Class II Driving Violation.
14. Drivers in the Restricted Area shall yield the right-of-way to moving aircraft and pedestrians at all times. Failure to comply with this requirement shall be a Class I Driving Violation.

15. Drivers shall yield the right-of-way to any vehicle using red or blue emergency lights and/or an audible emergency signal. Failure to comply with this requirement shall be a Class II Driving Violation.

16. The maximum speeds at the following locations are:

- Perimeter Road around the Terminals.....**20 mph**
- Ramp/Apron speed limit.....**10 mph**
- Bag Tunnel.....**5 mph**

For all other locations, the maximum speed limits will be posted at the locations themselves. Regardless of the quoted speed limits, no vehicle shall be driven at a speed that endangers persons or property. Drivers shall proceed at a speed which accounts for congestion, reduced visibility, slippery surfaces, or any other hazardous condition. Failure to comply with this requirement shall be a Class II Driving Violation.

17. Passing a vehicle shall be accomplished in a safe manner, within the confines of designated roadways and within the posted or designated speed limit. Failure to comply with this requirement shall be a Class II Driving Violation.

18. All traffic signs, including stop signs and pavement markings, must be obeyed at all times. Failure to comply with this requirement shall be a Class II Driving Violation.

19. All vehicles must proceed with caution after stopping at an aircraft crossing point. Failure to comply with this requirement shall be a Class II Driving Violation.

20. Only one vehicle may enter an Access Control System controlled vehicle gate into the Restricted Area on the swipe of a PDX Security Badge, unless the badgeholder gaining access is escorting other vehicles. The badgeholder who opens the vehicle gate to enter the Restricted Area must ensure that the gate is closed and secured behind the badgeholder before driving away from the gate. When exiting from the Restricted Area, only one vehicle may exit an Access Control System controlled vehicle gate at a time. If escorting other vehicles, the badgeholder must ensure the gate is closed and secure after the last escorted vehicle exits the Restricted Area. Failure to comply with this requirement shall be a Class II Driving Violation.

21. Unless directed by the aircraft ground crew, no driver shall drive between terminal and ground crews (a) pushing back an aircraft or (b) returning to a gate after pushing back an aircraft. For the purposes of cargo ramp ground handling, drivers should not drive between active ground crews and the point of origin of the pushback operation unless so directed by the ground crew. Failure to comply with this requirement shall be a Class II Driving Violation.

22. A Restricted Area accident that results in injury to a person or damage to an aircraft, another vehicle, or other property requires involved drivers to: (a) immediately stop and remain at the scene of the accident; (b) render reasonable assistance, if the driver is capable of doing so, to any person injured in the accident; (c) immediately report the accident to the Port Communications Center at (503)460-4747, and (d) provide any information the Port Police or Airside Operations Department personnel in order to complete an Accident report investigation. Failure to comply with this requirement shall be a Class II Driving Violation.
23. Drivers shall not operate vehicles in a reckless manner that could threaten the life or safety of any person, or threatens damage or destruction of property. Failure to comply with this requirement shall be a Class III Driving Violation.
24. No driver shall operate a vehicle, or any other equipment, within the Restricted Area under the influence of alcohol or illegal drugs. No driver shall operate a vehicle, or any other equipment, within the Restricted Area while under the influence of any prescription or over-the-counter medication that impairs, or may impair, the driver's physical or mental abilities. Failure to comply with this requirement shall be a Class III Driving Violation.

DRIVING ON OR "IN" THE MOVEMENT AREAS

The movement areas are defined as the taxiways, runways and other designated areas on the airport that are used for taxiing, hover taxiing, air taxiing, and takeoff and landing of aircraft, exclusive of loading ramps and aircraft parking areas. Movement Areas are considered "*positive control*" meaning, vehicles/pedestrians under tower/ground control may operate in the movement area. **You are required to have authorization from Port Airside Operations Supervisor (Airfield-1) at (503) 460-4134 or by radio and The FAA Control Tower (ATCT) to enter or drive on any movement areas.**

Vehicle Operators

Drivers driving in a Movement Area must successfully complete Movement Area training as well as a hands-on evaluation of their familiarity with the Movement Area from a qualified Airport Operations Department personnel. Drivers must have in their possession a valid PDX Security Badge with a "M" icon. Drivers shall not enter the Movement Area without coordinating with the Airside Operations Supervisor. Drivers shall not enter the Movement Area without receiving, acknowledging and understanding the approval from the Air Traffic Control Tower via VHF radio to proceed on the driving route requested. If any of the above requirements cannot be met, the driver must contact the Airside Operations Supervisor for assistance. Airside Operations Department personnel can be reached at (503) 460-4134 or (503) 720-6619. Failure to comply with this requirement shall be a Class III Driving Violation.

Any vehicle operating in the Movement Area must be equipped with: (a) flashing amber rotating beacon or strobe; (b) two-way radio providing continuous communication with the Air Traffic Control Tower ground control frequency; and (c) light gun signal placard and Movement Area map (these documents may be obtained from the Airside Operations Department). Vehicles not so equipped may not operate in the Movement Area unless escorted by an authorized vehicle that meets all of the foregoing equipment requirements. Failure to comply with this requirement shall be a Class II Driving Violation.

Taxiways

Designations: Aircraft use taxiways to move to and from the aprons and the runways.

Taxiways are designated by letters or by a letter/number combination such as A, B, B-2 or C-8.

Lighting: Taxiways are lighted with blue edge lighting and/or reflectors. Some of the taxiways are lighted with the green in-pavement, centerline lighting, here at PDX this denotes the low visibility taxi routes.



Taxiway edge light, Taxiway edge reflector and Green taxiway centerline lights

The taxi routes under SMGCS are lighted with the green centerline lights. As part of the taxi route there are some additional components you need to be aware of:

Geographic Position Markings: These checkpoints or “pink spots” will be outlined with a black and white circle and be designated with a number, a letter, or both. The markings can be used as hold points or for position reporting. The Control Tower will verify the position of aircraft and vehicles using these geographic position markings.



Geographic Position Marking with Clearance Bar Lights

Clearance Bar Lights: In-pavement yellow lights. When installed with geographic position markings they indicate designated aircraft or vehicle hold points.

Signs: The signs used on taxiways are direction, destination, location and taxiway ending marker signs.

Direction and Designation Signs: have **black lettering** and a **directional arrow** or **arrows** on a **yellow background**. The arrow indicates the direction to that taxiway, runway, or destination. Sometimes these signs may be collocated with a location sign and/or other guidance signs in an array.

Guidance signs may also indicate a direction to a destination on the airport such as a Cargo area, Fixed Base Operator, Military ramp or Run-up Area.



Guidance Sign



Guidance Sign

Location signs: have **yellow lettering** on a **black background**. The location sign below indicates that the operator of the vehicle/equipment is located on the named taxiway or runway.



Location Sign

Markings: Pavement markings on taxiways are always yellow. The taxiway centerline is painted on all taxiways. On the edges of some taxiways, there is a solid, double yellow line or double-dashed line. If the pavement is usable on both sides of the line, the lines will be dashed, if not lines will be solid. Each taxiway that enters the runway will have a hold position marking indicating where you should stop to remain clear of the runway.



Taxiway Markings

Runway Hold Position Markings (also called hold lines) are located across each taxiway that directly leads onto a runway. These markings are made up of **two solid lines** and **two broken yellow lines** and denote runway holding position markings. These markings are always co-located with a Runway Holding Position Sign. A vehicle operator must not cross from the solid-line side of the marking without first obtaining clearance.



Runway Hold Bar Markings with Runway Guard Lights and Stop Bar Lights

As a part of SMGCS there are additional lights installed at each hold line:

Runway Guard Lights: There are two components to these guard lights. The first is in-pavement yellow lights the length of the hold line. The second is elevated flashing yellow lights (Wig Wag lights) on either side of the hold line.



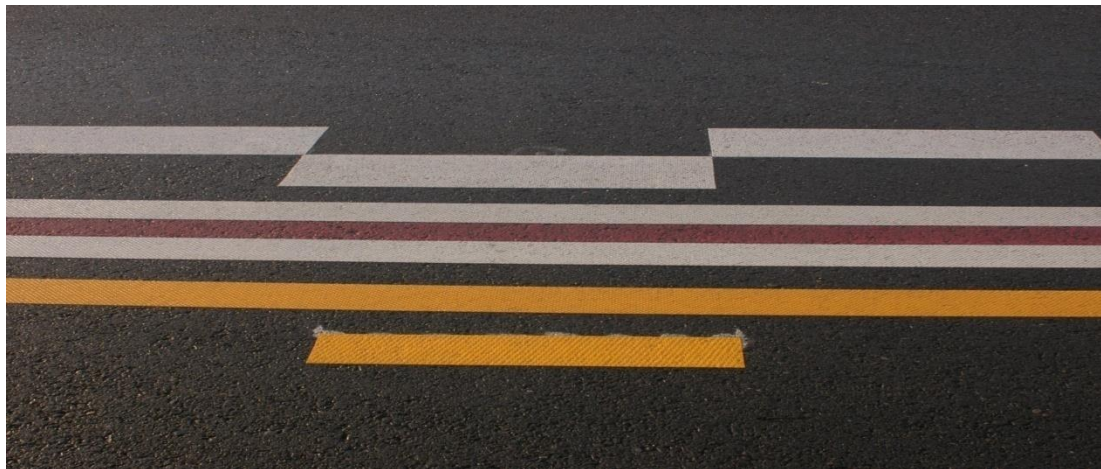
Guard Light (Wig Wag Light)

Runway Stop Bar Lights: Stop bars are required on runways for operations less than 600 feet RVR. These at intersections of an SMGCS taxiway and an active lights consist of a row of red in-pavement lights installed along the hold line and an elevated red light at each end of the hold line. When extinguished by the controller, they confirm clearance for the pilot or vehicle operator to enter the runway. Controlled stop bar lights operate in conjunction with green centerline lead-on lights, which extend from the stop bar location onto the runway. **NEVER CROSS AN ILLUMINATED RED STOP BAR**



Runway Stop Bar Lights ON

Movement/Non-Movement Area Boundary Marking: Is a composite of five lines, a solid white-red-white, a solid yellow, and a dashed yellow. A vehicle operator is not to cross these lines without first obtaining Airside Operations approval and contacting ATCT and obtaining a clearance to operate on the movement area.



Vehicle/Pedestrian Movement Boundary Line

ILS (Instrument Landing System) Critical Areas: has hold position markings to show pilots and vehicle operators where to stop to avoid interfering with navigational signals. This ladder-like marking will be accompanied by a red sign with the letters “ILS” in white adjacent to the taxiway.



ILS Hold Position Sign and Hold Position Markings

The in-pavement stop bar for the entrance to Runway 10R located at the ILS hold line.



ILS Hold Position with in-pavement lights



ILS

Critical Area Sign in grass: Entry into this area requires Airport Operations and Control Tower approval.

Runways

1. Designations: Runways are areas where aircraft land and take off. Runways are always designated from 1 to 36 based on their magnetic heading (0 to 360 degrees) to the nearest 10 degrees. For example, a runway aligned to the numbers magnetic heading of 100 degrees would be Runway 10. Each runway will have two identifications based upon direction of travel. For example, if one end of the runway is numbered “10”, the other end will be numbered “28” (a 180 degree difference). If there are parallel runways, each runway’s identification will have an “L” or “R” to indicate its relative location to the other parallel runway.

2. Lighting: Runways are lighted with a variety of colored lights.

Runway Edge-lights: are white. If the runway has an instrument approach, the last 2,000 feet will be **yellow** in color.

Runway Center Lights: Some runways have centerline lights; these are **white** except for the last 3,000 feet. They **alternate white and red** from 3,000 feet to 1,000 feet from the end and are solid **red** the last 1,000 feet.

Runway Touchdown Zone Lights: are white.

Runway End/Threshold lights: are located at each runway end, these are **green** on the approach side and **red** on the runway side.



Threshold Lights



Runway End Lights

Signs

Mandatory Holding Position Signs for Runways: have **white numbering/lettering** on a **red background**. These are located at each entrance to a runway and at the edge of the runway safety area/ obstacle-free zone and are co-located with runway holding position markings. **Do not proceed beyond these signs until clearance is given by ATCT to enter the runway.** Both runway identifications are included on the sign with the numbers arranged to indicate the direction of each threshold. For example: 10R-28L indicates that the threshold for runway 10R is to the left and the threshold for runway 28L is to the right.



Mandatory Hold Position Sign with Location

Instrument Landing System (ILS) Holding Position Signs: have **white letters** on a **red background**. These signs tell pilots and vehicle operators where to stop to avoid interrupting a type of navigational signal use by landing aircraft. This is a critical area, and a vehicle/equipment operator must remain clear of it. If a vehicle proceeds past this ILS marking, it may cause a false signal to be transmitted to the landing aircraft.



ILS Hold Position Sign

Runway Distance Remaining Signs: provide distance remaining information to pilots during takeoff and landing operations. They have **white numbering** on a **black background**. The number on the sign provides the remaining runway length in 1,000-foot increments.



Distance Remaining Sign

Runway Exit Sign: is a destination sign located prior to the runway/taxiway intersection on the side and direction of the runway where the aircraft is expected to exit. This sign has **black lettering** and a **directional arrow** on a **yellow background**.



Runway Exit Sign on Runway 3/21

Markings

Pavement markings on a runway are white: Runway Threshold Markings and Runway Threshold Bars, Runway Aiming Point Markings, Runway designation markings, Runway touchdown Zone Markings, Runway Centerline Markings, Runway Side Stripes, and Displaced Threshold Markings are white. The only nonwhite lines on a runway are yellow lead-in/off lines that extend from the runway centerline and holdlines to help guide aircraft onto and off of the runway.



Runway Markings

Safety areas: If you are required to drive on or work in areas adjacent to the runways and taxiways, be aware that aircraft wings and engines may extend over these areas. If it is necessary to park your vehicle, always park it outside the safety areas.

Runway safety areas have established as a 250 foot line either side of the runway centerline and 1,000 feet from the approach end of the runway. The runway safety area is defined in the grass as a line that has no vegetation. **Entrance into the Runway Safety Area requires Airfield –1 and Control Tower communication/approval.** The taxiway safety area is 110 feet from the taxiway centerline. (**Note: Aircraft such as B-747 or C-5 require greater taxiway safety areas due to their longer wing spans).**



Line Denoting Runway Safety Area Boundary

Communications with the Control Tower

When driving on the movement area, clear and proper communication is vital. Both you and the air traffic controller must ensure that your communications are understood and there is no confusion on what you are doing and what the control towers expects you to do. Keep the following in mind. *Never assume anything:*

- Always ask for assistance if you have any doubt about whether to proceed.
- If the instructions you receive from the Control Tower are unclear, ask that they be repeated by Stating, “*Say again*”.
- If there is anything about the instructions you do not understand, ask for further explanation.
- Repeat or “Read-back” your instructions to the Control Tower.

Radio communication procedures:

- Use an aviation two-way radio with the ground control and tower frequencies on it.
- Use your company call sign to identify yourself, for example: Port 207, United tow 1, etc.,
- Think about what you are going to say before calling the controller.
- Know and use the proper phraseology. Never use Citizens Band (CB) lingo or law enforcement “ten” Codes.
- Keep your transmission brief and concise as controllers are often very busy.
- Use the proper sequence in calling the controller. Before you start talking, make sure that no one else is already talking. Then key your microphone and do the following:
- State whom you are calling and identify yourself by using your company call sign:

Portland ground, Port 207

- Wait for the controller to respond. Be patient as it sometimes takes awhile if the controller is busy. When the controller responds, *Port 207, Portland ground*, state where you are and where you want to go. For example,
Port 207 at the end of C Concourse, to cross Runway 3 via Taxiway M and proceed to the VOR. Wait for the controller's response.
- The controller will either approve or deny your request, or give you modified instructions, e.g., *Port 207, proceed via Taxiway M, and hold short of Runway 3.*
- **Always read back all hold short instructions.** *Port 207, Wilco, hold short of Runway 3.*

NOTE: Use extreme caution when you hear the phrase "go ahead." Controllers use this to mean, "state your request." **It never means, "proceed!"**

There is some Aviation Phraseology terms you need to be familiar with to operate in the movement area safely.

Acknowledge – Let me know you have received and understand this message.

Advise intentions – Tell me what you plan to do.

Affirmative – Yes

Confirm – My version is...is that correct?

Correction – An error has been made in the transmission, and the correct version follows.

Go ahead – State your request. (**Never means "proceed".**)

Hold/Hold Short – Phrase used during ground operations to keep a vehicle or aircraft within a specified area or at a specified point while awaiting further clearance from air traffic control.

How do you hear me? – Question relating to the quality of the transmission or to determine how well the transmission is being received.

Immediately or without delay – Phrase used by ATC when such action compliance is required to avoid an imminent situation.

Negative – No, or permission is not granted, or that is not correct.

Out – The radio conversation is ended, and no response is expected.

Over – My radio transmission is ended, and I expect a response.

Proceed – You are authorized to begin or continue moving.

Read back – Repeat my message back to me.

Roger – I have received all of your last transmission only means he/she heard you, not an approval of your request. (It should not be used to answer a yes or no question)

Say again – Repeat what you just said.

Stand By – Wait...I will get back to you. (Standby is not an approval or denial.

Unable – Indicates inability to comply with a specific instruction, request, or clearance.

Verify – Request confirmation of information.

Wilco – I have received your message, understand it, and will comply.

The following is the *Aviation Alphabet*. This phonetic alphabet is used in radio communications. Use the words in place of letters to reduce confusion. For example, Taxiway B would be referred to as Taxiway Bravo.

A – Alpha	AL-FAH
B – Bravo	BRAH-VOH
C – Charlie	CHAR-LEE
D – Delta	DELL-TAH
E – Echo	ECK-OH
F – Foxtrot	FOKS-TROT
G – Golf	GOLF
H – Hotel	HOH-TEL
I – India	IN-DEE-AH
J – Juliett	JEW-LEE-ETT
K – Kilo	KEY-LOH

L – Lima	LEE-MAH
M – Mike	MIKE
N – November	NO-VEM-BER
O – Oscar	OSS-KAH
P – Papa	PAH-PAH
Q – Quebec	KEH-BECK
R – Romeo	ROW-ME-OH
S – Sierra	SEE-AIR-RAH
T – Tango	TANG-GO
U – Uniform	YOU-NEE-FORM
V – Victor	VIK-THE
W – Whiskey	WISS-KEY
X – X-ray	ECKS-RAY
Y – Yankee	YANG-KEY
Z – Zulu	ZOO-LOO
1 – One	WUN
2 – Two	TOO
3 – Three	TREE
4 – Four	FOW-ER
5 – Five	FIFE
6 – Six	SIX
7 – Seven	SEV-EN
8 – Eight	AIT
9 – Nine	NIN-ER
0 – Zero	ZEE-RO

Air traffic controllers have a backup communications system to use in the event an aircraft, vehicle, or controller's radio fails. Controllers use a **Light Gun** with different colored lenses to tell pilots or vehicle drivers what to do.

Meanings of light gun signals:

- **Steady Green** – It's okay to cross the runway or taxiway.
- **Steady Red** – Stop!
- **Flashing Red** – Move off the runway or taxiway.
- **Flashing White** – Return to your starting point on the airport.
- **Alternating Red & Green** – Proceed with extreme caution.

If you are ever working on a runway or taxiway and your radio quits, move your vehicle off the runway or taxiway, turn your vehicle toward the tower, and flash your lights. This signals the controllers that you need assistance. This may take some time if the controller's attention is directed toward another part of the airport. Rather than use light signals, the controller may call airport operations to provide you with an escort. Be patient. **Even a failed radio is not an excuse for proceeding without a proper clearance.**

Remember when driving on the movement area, clear and proper communication is vital. Both you and the air traffic controller must ensure that your communications with control tower are understood. This is vital for safe operations on the airport movement area.

Safety: The FAA defines runway/taxiway incursion as “Any occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in loss of separation with an aircraft taking off or intending to take off, landing, or intending to land.”

Runway/Taxiway incursions are primarily caused by error in one or more of the following areas:

- Pilot/ground vehicle/controller communications
- Airport familiarity
- Loss of situational awareness

An example of an incursion is a vehicle at an airport with a Control Tower straying onto a runway/taxiway in front of an aircraft causing the pilot to take action to avoid a collision.

When driving on the airfield, vehicle operators need to always be aware of their location and the meaning of all pavement markings, lights and signs. When on the aprons and taxiways, stay away and steer clear of aircraft. **Aircraft always have the right-of-way.**

NOTE: Any individual involved in an incursion shall receive remedial airfield driver's training given by Port Airside Operations. Failure to pass the additional training will result in the lost of airfield driving privileges

SPECIAL REQUIREMENTS

Aircraft Tow Operations

1. Drivers involved in aircraft towing operations in the Movement Area that are part of their monthly approved gate schedule are not required to coordinate first with the Airside Operations Supervisor prior to contacting the FAA Control Tower. Drivers involved in all other aircraft towing operations must notify the Airside Operations Supervisor at (503) 460-4134 or (503) 720-6619 prior to the towing operation. Drivers must also request and receive approval from the Air Traffic Control Tower via VHF radio to proceed on the towing route requested. Drivers shall not cross the Movement Area Boundary Line, without receiving, acknowledging, and understanding the Air Traffic Control Tower approval. Failure to comply with this requirement shall be a Class III Driving Violation.
2. Aircraft brake riders in tow operations must also have in their possession a valid PDX Security Badge with a "M" icon. Brake riders without a valid PDX Security Badge shall not enter the Movement Area without coordinating with the Airside Operations Supervisor.
3. Airline staff tasked with utilization of the two-way ground control radio and of communications with the Air Traffic Control Tower will be considered primarily responsible in the event of an incident or a Movement Area incursion. Any deviation from these requirements must be approved by the Airside Operations Manager. Failure to comply with these requirements shall be a Class III Driving Violation.

Escort Requirements:

1. Escort vehicle can escort up to three vehicles.
2. Escort vehicle can escort only two tractor/trailer rigs or two busses due to the length.
3. Escort must meet badging/drivers requirements in Section 2.

Any driver who fails to comply with any of the provisions of these Rules and Regulations or any Port direction issued to him/her will be subject to penalties as set forth in this handbook. Penalties for failure to comply with this handbook may result in an Airfield Citation, suspension or revocation of Restricted Area driving authorization, or suspension or revocation of the driver's PDX Security Badge.

The supervisor or employer of a driver receiving an Airfield Citation will be notified of any violation, including written warnings.

The Airside Operations Department and the Port of Portland Police Department are primarily responsible for ensuring compliance with the tenets of this handbook. Both departments are authorized to issue Airfield Citations to any driver in violation of the Rules and Regulations set forth. In addition to immediate penalties and Airfield Citations, the Police Department may also issue criminal citations for certain driving or vehicle operating violations.

Sanctions

The "Enforcement Matrix" set forth on the next page is a guideline to be used by the General Manager of Airports Operations for issuing penalties for substantiated driving violations. Although the Enforcement Matrix will generally be followed in most cases, the penalties given for some violations may vary depending on the nature of each specific violation, the timing of the occurrence and if, in the reasonable opinion of the General Manager of Airports Operations, a variation from the Enforcement Matrix is warranted by the findings on an investigation. All penalties imposed are in addition to any other rights or remedies available to the Port.

The Enforcement Matrix is based on the number citations received in a two (2) year period. If successive violations occur in a shorter period of time, the penalties are likely to be more severe, up to and including suspension or revocation of the driving authorization. As used herein the term revocation of driving authorization means a person whose Restricted Area driving authorization is revoked and loses the driving authorization. The applicant will not be allowed to re-apply for driving authorization for a period of two (2) years.

Enforcement Matrix

	Class I Driving Violation	Class II Driving Violation	Class III Driving Violation	Parking Violation
First Offense	Airfield Citation only	Airfield Citation; required Port driver's training; driving authorization suspended for up to 1 week	Airfield Citation; required Port driver's training; driving authorization suspended for up to 30 days	Airfield parking citation; monetary fine up to \$250.
Second Offense	Airfield Citation; required Port driver's training; driving authorization suspended for up to 1 week	Airfield Citation; required Port driver's training; driving authorization suspended for up to 3 months; potential revocation of PDX Security Badge	Airfield Citation; Revocation of driving authorization; potential revocation of PDX Security Badge	Airfield parking citation; monetary fine up to \$250.
Third Offense	Airfield Citation; required Port driver's training; driving authorization suspended for up to 3 months	Airfield Citation; Revocation of driving authorization	Airfield Citation; Revocation of PDX Security Badge	Airfield parking citation; monetary fine up to \$250.
Fourth Subsequent Offenses (and any subsequent offenses)	Airfield Citation; Revocation of driving authorization	Airfield Citation; Revocation of PDX Security Badge	Airfield Citation; Revocation of PDX Security Badge	Airfield parking citation; monetary fine up to \$250.

APPEAL PROCESS

A person or business that intends to appeal an enforcement action must file a written notice of appeal no later than ten (10) calendar days after the Airfield Citation is received by the individual alleged to have committed the violation. The request for hearing must state the grounds for the appeal including the reason or reasons that the citation was issued inappropriately. Please mail or fax written appeals to:

Director, Airports Operations

7200 NE Airport Way

Portland, OR 97218

Fax: (503) 548-5568

Detailed information pertaining to the appeal process is contained in the "Portland International Airport Rules".

BEST PRACTICES

Operating on the runways, taxiways, service roads, and apron areas within the airport's Restricted Area requires vehicle operators to exercise extreme caution as aircraft are always moving, passengers may walk between an aircraft and the gate, and noise levels are high. The following are best practices that have been developed and successfully applied to airfield driving. These practices should be observed by all vehicle operators with the airport Restricted Area:

1. **Safety is paramount**, therefore, vehicle operators should:
 - a. Never drive between safety cones placed on the apron or cones delineating passenger walkways.
 - b. Be aware of potential cockpit blind spots. Pilots may not always see you; do not assume that they do.
 - c. Avoid jet blast or prop wash, which can blow debris or overturn vehicles.
 - d. Be aware of moving propellers that can cause vehicle damage, injury, or death.
 - e. Be aware of other vehicle movements. You may not hear them approaching due to aircraft engine noise.
 - f. Yield to aircraft, passengers, and emergency vehicles. They **ALWAYS** have the right-of-way on any portion of the airport.

2. When traveling on the apron, use the painted vehicle service roads as much as possible. When off of the service road, attempt to make all turns perpendicular (90 degrees) to ensure maximum visibility. Avoid driving close to buildings around vehicles or aircraft. This procedure helps to establish a predictable order to vehicle movements in congested areas and helps to maximize visibility to aircraft and other vehicles.
3. A Taxiing or parked aircraft may still have its engines running, so continue to be cautious of the hazards of jet blast or prop wash. As a general rule, an aircraft may be starting its engines or already have them running if the aircraft's red beacons are on.
4. A pilot has limited ability to maneuver quickly on the ground. Cockpit visibility prohibits the pilot from seeing under the nose or behind the aircraft and limits the pilot's ability to observe and avoid ground vehicles.
5. Poor weather conditions (snow, fog, rain, etc..) may obscure visual cues, roadway markings and airport signage. Be aware of your surroundings and operating boundaries. Drive wisely.

DEFINITIONS

Accident – A collision between one aircraft or vehicle and another aircraft, vehicle, person, or object that results in property damage, personal injury, or death.

Air Operations Area (AOA) – those areas that encompass the runways, taxiways, aprons, and other areas of the airport intended for use by aircraft for taxing, takeoff, landing, maneuvering, loading ramps, parking and safety areas located outside the Secured Area, for use by aircraft regulated under TSR1544 or 1546, and any adjacent areas, such as general aviation areas, that are not separated by adequate security systems, measures, or procedures.. Vehicles necessary for servicing aircraft operations may also operate on the AOA.

Airport Traffic Control Tower (ATCT) – A terminal facility that uses air/ground communications, visual signaling, and other devices to provide Air Traffic Control services to aircraft operating in the vicinity of an airport or on the movement area.

Aircraft – a device that is used for flight in the air.

Airport Operations Supervisor – the primary point of contact for operations airside, landside, and in the terminal.

Airport Security Coordinator – the person appointed by the Port of Portland to serve as the primary and immediate contact for security-related activities and communications with the Transportation Security Administration (TSA).

Apron or Ramp – a defined area on an airport intended to accommodate aircraft for the purposes of loading and unloading passengers or cargo, refueling or maintenance.

Authorized Designee – a person designated by an airport tenant or an airport contractor who will sign for the company and will verify that each badge applicant from that company has a valid need for a PDX Security Badge or Restricted Area Driver's Authorization.

Class I, II, and III Airfield Driving Violations – the three (3) categories of Restricted Area driving violations at the Airport, from least to most severe. An Airfield Driving Violation means any failure to comply with the Rules on matters of vehicle operations within the Restricted Area.

Foreign Object Damage/Debris (FOD) – the damage done to aircraft engines, tires, or skin from rocks, trash or the actual debris found on runways, taxiways and aprons. Foreign Object Debris is the actual debris that causes Foreign Object Damage.

General Aviation (GA) – that portion of civil aviation that encompasses all facets of aviation except air carriers holding a certificate of public convenience and necessity.

Ground Vehicle – all conveyances, except aircraft, used on the ground to transport persons, cargo, fuel, or equipment.

Instrument Landing System (ILS) Critical Area – an area provided to protect the signals of the localizer and glideslope.

Incursion – any occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in loss of separation with an aircraft taking off or intending to take off, landing or intending to land.

Light Gun – a hand-held, directional light-signaling device that emits a brilliant narrow beam of white, green, or red light, as selected by the ATCT controller. The color and type of light transmitted can be used to approve or disapprove anticipated pilot or vehicle actions where radio communication is not available. The light gun is used for controlling air traffic operating in the vicinity of the airport and aircraft/vehicles on the airport movement area.

Movement Areas – the runways, taxiways and other areas of an airport that aircraft use for taxiing, hover taxiing, takeoff, and landing of Aircraft, exclusive of loading aprons and parking areas. It includes all areas under the direct and positive control of the Air Traffic Control Tower. Specific approval for entry onto the movement area must be obtained from the Airside Operations Department and the Air Traffic Control Tower.

Movement Area Boundary Line – the boundary between the Non-Movement Area and Movement Area. This line is a composite of five lines; a solid white-red-white, a solid yellow, and a dashed yellow (see illustration on page 35). No person shall cross the Vehicle/Pedestrian Movement Boundary Line from the Non-Movement Area without prior approval from the Airport Operations Supervisor (Airfield-1 at 503-460-4134 or by radio) and authorization from the FAA Control Tower (ATCT). Crossing this line without appropriate authorization will result in a Vehicle/pedestrian Incursion Violation and sanctions from the Port of Portland.

Non-Movement Areas – taxi lanes, aprons, and other areas not under the control of ATCT.

Operator – any person who is in actual physical control of an aircraft or a motor vehicle.

Owner – a person who holds the legal title of an aircraft or motor vehicle.

Restricted Areas – the area of the Airport within the security perimeter fence, including the AOA and the Secured Area. Access to the Restricted Area is limited to those persons who possess and appropriately display a PDX Security Badge.

Restricted Area Driving Authorization – an authorization to operate motor vehicles within the Restricted Area given by the Port to properly trained and badged personnel.

Runway – a defined rectangular area for the landing and takeoff of aircraft along its length.

Runway Safety Area – a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway.

Secured Area – an area at Portland International Airport outside the terminal, the Secured Area includes all areas designated and signed as “**Restricted**” beginning at the west edge of the General Aviation (Flightcraft-leased) ramp on the north side and continuing around the west and south sides of the terminal to the east edge of the concourse A (Horizon) ramp, and located between the security perimeter fence or terminal building and the outer vehicle lane surrounding the terminal ramp. The outer vehicle lane located within the Secured Area demarcation by a composite of five lines, a solid white-red-white, a solid yellow, and a dashed yellow.

Surface Movement Guidance and Control System (SMGCS) – a system comprising the provisions for guidance to, and control or regulation of all aircraft, ground vehicles, and personnel of the airport during low-visibility operations. Guidance relates to facilities and information necessary for pilots and ground vehicle operators to find their way about the airport. Control or regulation means the measures necessary to prevent collisions and to ensure that traffic flows smoothly and efficiently.

Taxi – the movement of an airplane under its own power on the surface of the airport.

Taxiway – those parts of the AOA designated for the maneuvering of aircraft to and from the runways and aircraft areas.

Vehicle Operator – any person who is in actual physical control of an aircraft or a motor vehicle.

Vehicle Service Road – a designated roadway for vehicles in a non-movement area.

VEHICLE/PEDESTRIAN MOVEMENT BOUNDARY LINE

The Vehicle/Pedestrian Movement Boundary Line delineates the Non-movement Area from the Movement Area. The line is painted on the pavement and is a composite of five lines, a solid white-red-white, a solid yellow, and a dashed yellow. **No person shall cross the Vehicle/Pedestrian Movement Boundary Line from the Non-movement Area without prior approval obtained from Port Airside Operations Supervisor (Airfield-1) at (503) 460-4134 or by radio and authorization from the FAA Control Tower (ATCT).** *Crossing this line without authorization will result in an Airfield Driving Citation and a suspension of Restricted Area driving authorization for up to 30 days.*



Vehicle/Pedestrian Movement Boundary Line